

Abstract**ELECTROCHEMICAL SENSORS**

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An electrode for use in a electrochemical sensor comprises carbon modified with a chemically sensitive redox-active compound, excluding an electrode based on carbon having derivatised thereon two redox-active species wherein at least one of said species is selected from anthraquinone, phenanthrenequinone and N,N'-diphenyl-*p*-phenylenediamine (DPPD).

10 The invention further provides a pH sensor comprising:

a working electrode comprising carbon modified with a chemically sensitive redox active material; and

a counter electrode,

wherein the ratio of the surface area of the working electrode to the surface area of the

15 counter electrode is from 1:10 to 10:1. Also provided is a pH sensor comprising:

a working electrode comprising carbon modified with a chemically sensitive redox active material, and

a counter electrode,

wherein the area of the working electrode is from $500\mu\text{m}^2$ to 0.1m^2 . The uses of these

20 electrodes and sensors are also described.